

REMARKS

Claims 1-26 and 28-48 were previously canceled. Claims 27, 49 and 50 are currently pending in this application.

Claims 27, 49 and 50 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kozicki, U.S. Patent Application Publication No. 2003/0035315 (Kozicki). This rejection is respectfully traversed.

Independent claim 27 recites an "intermediate structure for an array of resistance variable memory cells" comprising "at least one pillar of stacked material layers on a semiconductor substrate, the stacked layers comprising a first electrode layer, a chalcogenide glass layer having metal ions diffused therein and being capable of changing resistance under the influence of an applied voltage, and a second electrode layer, the at least one pillar not located within a via."

Kozicki relates to a microelectronic programmable structure for storing information. Kozicki discloses that his microelectronic programmable structure includes an ion conductor, which may be a chalcogenide glass with a metal dissolved therein, an electrode and a contact. Kozicki discloses that his microelectronic programmable structure can have several different configurations. Applicant agrees with the Examiner that most of the embodiments taught by Kozicki comprise pillars located within a via and that not all of Kozicki's embodiments require a via or trench. However, all of Kozicki's configurations that include a vertically stacked set of layers are formed within a via or trench. See e.g., Kozicki at paragraphs [0086], [0089], [0091]-[0096]. The other of Kozicki's embodiments have a horizontal configuration. See e.g., Kozicki at paragraphs [0088], [0101].

The Office Action states that Kozicki's FIG. 21 and paragraph [0096] teach that a pillar of stacked material may be formed on a substrate. Office action at 2. Applicant respectfully submits, however, that paragraph 0096 of Kozicki states that the structure can be formed in a vertical configuration that would be at least partially within a via, or a horizontal configuration that would be formed on a substrate as in Kozicki's FIG. 11 embodiment. Kozicki at paragraph [0096]. The interpretation of Kozicki's paragraph [0096] presented in the Office Action is based improperly on hindsight and uses the present claims to provide meaning to the phrase rather than Kozicki's specification.

Moreover, none of the methods disclosed by Kozicki for forming the various devices disclosed would yield an intermediate structure as recited by claim 27. Figures 1, 2, and 7-29 show Kozicki's various device configurations. The method disclosed for forming the configurations of FIGS. 1, 2, 7-10 and 13-14 includes forming an ion conductor within a via. Kozicki at paragraphs [0071], [0085]-[0087]. The method disclosed for forming the configurations shown in FIGS 11 and 12 includes forming a horizontal structure by patterning an ion conductor layer and then forming first and second electrodes in contact with different portions of the ion conductor layer. Kozicki at paragraphs [0088]. The method for forming the configurations shown in FIGS. 14-19 includes conformally depositing an ion conductor within a trench. Kozicki at paragraphs [0091]-[0094]. In describing methods for forming the configurations of FIGS. 21-29, Kozicki refers back to the methods used to form one or more of the configurations shown in FIGS. 1, 2 and 7-19. Particularly, in describing the formation of the FIG. 21 configuration vertically, Kozicki refers to the methods "described above," and when describing the formation of the FIG. 21 configuration horizontally, Kozicki refers to the method for forming the FIG. 11 configuration. Kozicki at paragraph [0096]. Accordingly, no intermediate or final structure achieved by Kozicki's methods would include "at least one pillar of stacked material layers on a semiconductor substrate, the

stacked layers comprising a first electrode layer, a chalcogenide glass layer having metal ions diffused therein and being capable of changing resistance under the influence of an applied voltage, and a second electrode layer, the at least one pillar not located within a via," as recited by independent claim 27. For at least these reasons, withdrawal of this request is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: November 8, 2006

Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Elizabeth Parsons

Registration No.: 52,499

DICKSTEIN SHAPIRO LLP

1825 Eye Street, NW

Washington, DC 20006-5403

(202) 420-2200

Attorneys for Applicant